

Generating a Reduced Gravity Environment on Earth

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ABSTRACT

Since the 1950s several reduced gravity simulators have been designed and utilized in preparing humans for spaceflight and in reduced gravity system development. The Active Response Gravity Offload System (ARGOS) is the newest and most realistic gravity offload simulator. ARGOS provides three degrees of motion within the test area and is scalable for full building deployment. The inertia of the overhead system is eliminated by an active motor and control system. This presentation will discuss what ARGOS is, how it functions, and the unique challenges of interfacing to the human. Test data and video for human and robotic systems will be presented. A major variable in the human machine interaction is the interface of ARGOS to the human. These challenges along with design solutions will be discussed.

